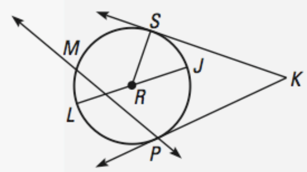
Geometry Unit 10 Review Date_____

1. What is your name?

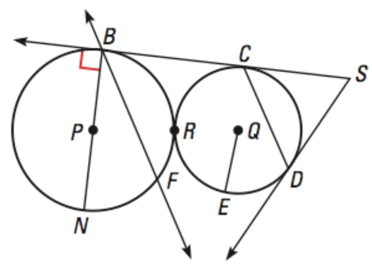
10.1 TANGENTS TO CIRCLES

Examples on pp. 595–598

EXAMPLES In $\odot R$, R is the center. $\overline{RJ}$ is a radius, and $\overline{JL}$ is a diameter. $\overline{MP}$ is a chord, and $\overleftrightarrow{MP}$ is a secant. $\overleftrightarrow{KS}$ is a tangent and so it is perpendicular to the radius $\overline{RS}$. $\overline{KS} \cong \overline{KP}$ because they are two tangents from the same exterior point.



Name a point, segment, line, or circle that represents the phrase.



2. Diameter of ○P. **3.** Point of tangency of ○Q.

4. Chord of ○P. **5.** Center of the large circle.

6. Radius of ○Q. **7.** Common tangent.

8. Secant **9.** Point of tangency of ○P and ○Q.

10. Is $\measuredangle PBC$ a right angle? Explain why or why not.

11. Explain why $\triangle SCD$ is isosceles.

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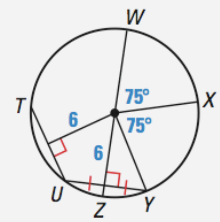
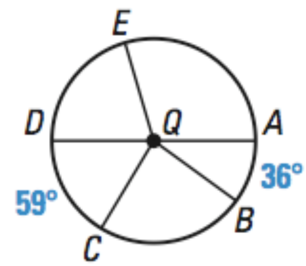
10.2 ARCS AND CHORDS

Examples on pp. 603–606

EXAMPLES $\overset{\frown}{WX}$ and $\overset{\frown}{XY}$ are congruent minor arcs with measure 75°. $\overset{\frown}{WYX}$ is a major arc, and $m\overset{\frown}{WYX} = 360° - 75° = 285°$. Chords $\overline{TU}$ and $\overline{UY}$ are congruent because they are equidistant from the center of the circle. $\overset{\frown}{TU} \cong \overset{\frown}{UY}$ because $\overline{TU} \cong \overline{UY}$. Chord $\overline{WZ}$ is a perpendicular bisector of chord $\overline{UY}$, so $\overline{WZ}$ is a diameter.



Use ○Q in the diagram to find the measure of the indicated arc. $\overline{AD}$ is a diameter of $m\overset{\frown}{CE} = 121°$.



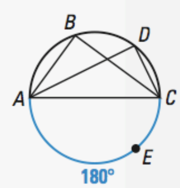
12. $\overset{\frown}{DE}$ **13.** $\overset{\frown}{AE}$ **14.** $\overset{\frown}{AEC}$

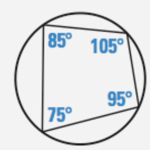
15. $\overset{\frown}{BC}$ **16.** $\overset{\frown}{BDC}$ **17.** $\overset{\frown}{BDA}$

10.3 INSCRIBED ANGLES

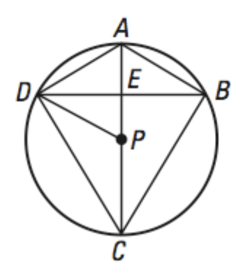
Examples on pp. 613–616

EXAMPLES $\angle ABC$ and $\angle ADC$ are congruent inscribed angles, each with measure $\frac{1}{2} \cdot m\overset{\frown}{AEC} = 90°$. Because $\triangle ADC$ is an inscribed right triangle, $\overline{AC}$ is a diameter. The quadrilateral can be inscribed in a circle because its opposite angles are supplementary.





Kite ABCD is inscribed in ○P. Decide whether the statement is true or false. Explain your reasoning.



18.______ $\measuredangle ABC$ and $\measuredangle ADC$ are right angles.

19.______ $m\measuredangle ACD = \frac{1}{2} m\measuredangle AED$.

20.______ $m\measuredangle DAB + m\measuredangle BCD = 180°$

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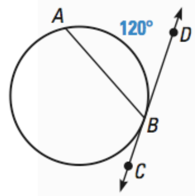
10.4 Other Angle Relationships in Circles

Examples on pp. 621–623

EXAMPLES

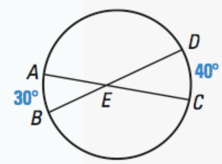
$m\angle ABD = \frac{1}{2} \cdot 120°$

$= 60°$



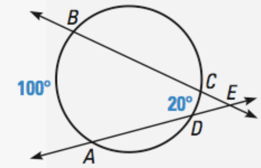
$m\angle CED = \frac{1}{2}(30° + 40°)$

$= 35°$



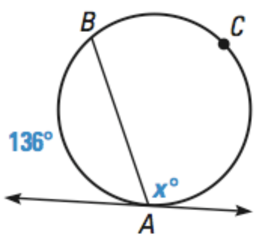
$m\angle CED = \frac{1}{2}(100° - 20°)$

$= 40°$

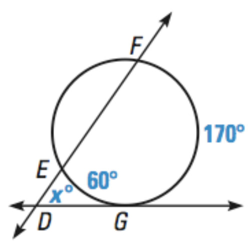


Find the value of x.

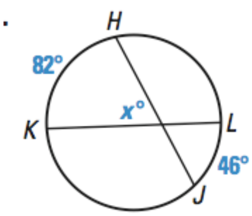
21.



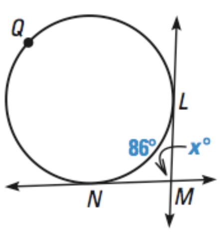
22.



23.



24.



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10.5 SEGMENT LENGTHS IN CIRCLES

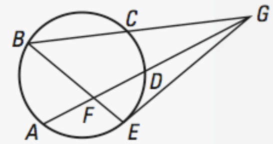
Examples on pp. 629–631

EXAMPLES $\overline{GE}$ is a tangent segment.

$BF \cdot FE = AF \cdot FD$

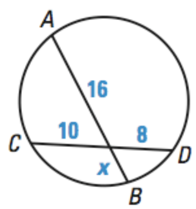
$GC \cdot GB = GD \cdot GA$

$(GE)^2 = GD \cdot GA$

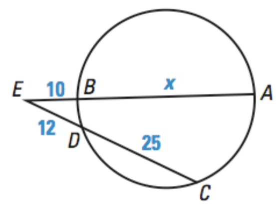


Find the value of x.

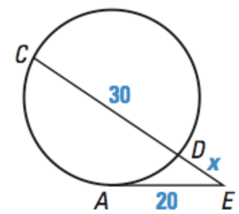
25.



26.



27.

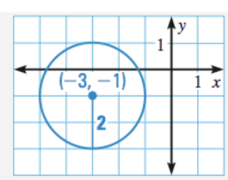


10.6 EQUATIONS OF CIRCLES

Examples on pp. 636–637

EXAMPLE $\odot C$ has center $(-3, -1)$ and radius 2. Its standard equation is

$$[x - (-3)]^2 + [y - (-1)]^2 = 2^2, \text{ or } (x + 3)^2 + (y + 1)^2 = 4.$$



Write the standard equation of the circle. Then graph the equation.

28. Center (2, 5), radius 9

29. Center (-4, -1), radius 4

30. Center (-6, 0), radius $\sqrt{10}$